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(54) Title: AUTOMATED CREDIT CARD PAYMENT SYSTEM

(57) Abstract

An automated payment system, is provided which compares a payee's (70) customer information (76) with a consolidated master list of credit card accounts having account numbers. The consolidated database contains credit card account information (57) from multiple credit card issuers. The system allows the selection, of a particular credit card account to use when several credit cards are located for a customer. Credit card account information matching the customer is encrypted (53) and provided to the payee. The customer authorizes payment from its credit card account, which is provided in encrypted form, and thus does not have to provide the information itself. The payee collects the invoices or subscription offers with the payment authorization and submits it to a service bureau which decrypts the credit card account number and processes payment from that customer's account to the payee.

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AUTOMATED CREDIT CARD PAYMENT SYSTEM

10   The present application claims the benefit of prior provisional application

Serial No. 60/053,740, filed July 25, 1997, in the name of Danial A. Kern, entitled

"Consolidated Credit Card Payment System."

15

BACKGROUND OF THE INVENTION

        The present invention relates to computerized billing and payment systems. In

particular, the invention relates to an automated credit card payment system that matches

20   names of customers with credit card account information consolidated from multiple credit

card issuers and selects a credit card for a given customer for use in paying bills, invoices and

other obligations.

Most companies that provide continual services can automatically bill their customers on a regular basis. To increase customer retention, as well as reliability in payments, and also to avoid the need for repeated billings of past due accounts, companies increasingly offer customers the option of making payments through the customer's credit

5 card. However, the need for customers to retrieve the credit card they wish to use, coupled with the customer's perception that writing their credit card account number on a bill and mailing it is not secure, hinders many customers from taking advantage of this convenient payment method.

This problem is particularly pronounced in the case of publishers and

10 subscribers in that publishers have additional difficulties in continually renewing their customer subscriptions. This is because a subscription constitutes an agreement to receive a product or service for a specified period of time. At the end of the subscription period, the subscriber must affirmatively renew its subscription and the publisher must continually remind the subscriber to do so.

15 This arrangement seriously compromises a publisher's ability to retain its customers. Typically, publishers send each customer as many as seven or more renewal notices, which often begin soon after the consumer has placed his initial subscription. If a customer agrees to renew a subscription, the publisher must then start the billing process. This process requires the publisher to incur additional costs and leaves the publisher

20 vulnerable to bad debt from customers who renew and receive the subscription, but do not remit payment.

When customers accept a subscription or other purchase solicitation, they are generally offered three billing options: (1) payment by cash, check, or money order included

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with the acceptance; (2) payment collected from the customer by billing at a later date; and

(3) payment by credit card. Customers most often request to be billed later. Whether it be

security concerns or other impediments, such as the inconvenience of finding their credit card

account information, a very small proportion of subscribers (e.g., 5% or less) pay for their

5   subscriptions with credit cards.

Another difficulty with the use of credit cards for automated payment is that

most companies and publishers do not have access to customers' credit card account

information. Although a company could enter into an agreement with an individual credit

card issuer to obtain access to that issuer's accounts, it would need to enter into many such

10   agreements with a large number of issuers in order to obtain account information for each of

its customers or potential customers. For example, nationwide over one thousand financial

institutions issue VISA and MASTERCARD credit cards, hundreds of institutions issue their

own private label credit cards (e.g., retailers and oil companies), and several major financial

services companies issue credit cards as well (e.g., American Express and Discover). Each of

15   these approximately one thousand institutions has independently acquired its own card

members and thus owns and maintains its own credit card account information file.

The difficulty presented by this scenario is represented diagrammatically in

Fig. 1. As shown in the drawing, for publishers to have access to credit card account

information, each of a large number of credit card issuers would need to provide its credit

20   card account information to each of a large number of publishers. Aside from being

logistically difficult, exposing credit card account information to many third parties is an

unacceptable security risk. Additionally, each publisher would need to obtain credit card

account information separately from each issuer in order to obtain credit card information for

each of its subscribers or customers. It is logistically and economically prohibitive for each

publisher to individually match its customer information with each credit card issuer's list of

credit card account information. As a result, it is difficult, if not impossible, for publishers or

other companies to take advantage of the convenience and reliability of automated credit card

5   billing.

Thus, there is a need for a system that provides companies the ability to

efficiently match a customer's billing information with that customer's credit card account

information to allow for convenient billing, while preserving the customer's security and

privacy interests.

10

SUMMARY OF THE INVENTION

The present invention is for a system and related method for payment of

subscription fees or other payments which compares a payee's database of subscribers,

15   customers, potential customers, prospects, or accounts receivables, sometimes referred to

herein collectively as "customers", either with a consolidated database of credit card account

information or with a plurality of non-consolidated databases of credit card account

information, or with a combination of the two types. Other financial account information

may be used to make the payments, including bank card account numbers, checking account

20   numbers, and virtual cash account numbers, such as those provided for commercial

transactions over the Internet.

The system matches customer information contained in the payee database

with the credit card account information contained in the one or more credit card databases

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and selects, on a pro rata basis or otherwise, which one or more credit card accounts to use in

the solicitation or billing of a customer when the customer is a holder of more than one credit

card account. One or multiple credit card numbers may be selected for presentation to the

customer.

5   The credit card account or accounts selected are provided to the payee for

inclusion on a commercial communication, such as a payment stub, renewal form, invoice, or

other marketing material soliciting payment or subscription. Optionally, the payee need not

know the particular credit card account or number being used. For example, a commercial

communication may indicate the issuer of the card or financial account and a particular credit

10   card or financial account for the customer to bill to, but include the account number only in

encrypted form, thus offering security and privacy to the consumer.

               The customer can indicate his approval to use the credit card number provided

in encrypted form and thus does not have to provide the information himself when paying by

credit card. The payee collects the invoices or other offers with the indication or

15   authorization of payment from the credit card account and, optionally, submits it to a service

bureau which decrypts the credit card account number and processes billing to the selected

credit card account number. This helps preserve the customer's privacy in its credit card and

related information.

               As shown in Fig. 2, the system of the present invention serves as an

20   intermediary between a large number of issuers and a large number of publishers. As shown

in the drawing, issuers provide their account information lists to the central account

management and consolidation system of the present invention, which in turn receives

customer information from publishers, and matches and selects credit card information to provide to the publishers, as described above.

In some embodiments, the system includes a memory device which stores a consolidated multiple credit card account information list, or a master credit card account list,

5   which includes credit card account information from multiple credit card issuers. A computer system or other processing unit matches customer names from the master credit card account list to a database of a payee's customer information in order to associate a credit card account number with a selected member of the customer database. The computer system selects one or more specific associated credit card numbers when more than one credit card number

10   matches the selected member of the payee's customer database. If not previously encrypted, the associated credit card number is encrypted and provided to the payee for inclusion on the customer's commercial communication, such as a bill, payment stub, renewal form or invoice, which is then sent to the customer. After authorization by the customer, the system may also decrypt the encrypted credit card number for processing payment to the payee from

15   the selected credit card account of the customer.

Alternatively, in lieu of including a master consolidated database of credit card account information, the system may include a plurality of databases of credit card account information and a means for searching the various databases to locate a customer's credit card account information. The various credit card account information databases may include

20   databases of individual issuers and/or partially consolidated databases containing information from a number of credit card issuers.

A method in accordance with one embodiment of the invention includes the steps of consolidating multiple credit card account information lists from multiple credit card

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issuers into a master credit card account list, receiving a payee's customer database, and matching names from the master credit card account list and the payee's database to associate at least one credit card account number for each customer in the payee's customer database. In accordance with desired selection rules, one or more of the matching credit card numbers is

5   selected, if more than one credit card account number is found for a particular customer. The selected credit card number is encrypted, or may be provided already encrypted in the credit card databases. The encrypted credit card number or numbers are provided to the payee for inclusion on the payee's commercial communication to the customer, thus providing the customer with a means for authorizing payment for purchase to the associated credit card

10   number. Payment for the purchase is processed and made to the payee from the credit card account of the authorizing member.

Alternatively, instead of consolidating multiple credit card account information from a number of credit card issuers into a single master credit card account database or list, the method may include consolidating some subset of credit card account lists

15   into partially consolidated lists and searching a plurality of such lists as well as lists from individual credit card issuers in order to associate at least one credit card account number for each customer in the payee's customer database, or searching a plurality of individual credit card account lists provided by different issuers.

20   BRIEF DESCRIPTION OF THE DRAWINGS

For a fuller understanding of the invention, reference is made to the following description taken in connection with the accompanying drawings, in which:

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Fig. 1 is a block diagram illustrating the problems encountered in matching a

large number of card issuers to a large number of publishers in an automated payment system;

Fig. 2 is a block diagram illustrating the use of the present invention in

efficiently matching a large number of credit card issuers to a large number of publishers in

5   an automated payment system;

Fig. 3 is a block diagram of a preferred embodiment of an apparatus for

carrying out the automated credit card payment method and system of the present invention;

Fig. 4 is a flow chart illustrating the use of the apparatus of Fig. 3;

Fig. 5 is a block diagram of an alternative embodiment of the automated credit

10   card payment system of the present invention;

Fig. 6 is a block diagram of an automated credit card payment system used for

publishers in accordance with one preferred embodiment of the invention; and

Fig. 7 is a flow chart illustrating the use of the system of Fig. 6

15   DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Preferred embodiments of the invention are now described with reference to

the drawings.   Referring to Fig. 3, an automatic payment system 50 according to one

embodiment of the present invention is shown.   The system 50 may be operated by a

company, such as a service bureau, and includes a database consolidation and sorting

20   subsystem 55, a master credit card database 57, an identifier matching and selecting

subsystem 59, and an optional credit card account number encryption subsystem 53.

The automatic payment system 50 is used in conjunction with n number of

credit card issuers 60 to 60_n. Each of the n credit card issuers 60 maintains on a computer

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system its own credit card information list 66 to 66_n in accordance with one of a number of conventional format types known to those of skill in the art. These credit card information lists 66 typically contain account holder identification data, such as the name and address of each account holder, as well as the associated credit card number, name of financial

5 institution, and demographic information pertaining to each card holder. One skilled in the art will recognize that although the preferred embodiments are described with reference to the use of credit cards, other financial account information or devices, such as smart cards, bank cards, checking accounts, and virtual payment accounts used for Internet and other on-line commercial transactions, may be used.

10 The automated payment system 50 receives credit card information lists 66 over a transmission medium 68 from the n credit card issuers 60. This transfer of information over medium 68 may be achieved by modem, high speed data lines, the Internet, or the physical transfer of storage media, such as tapes or disks. This transfer is authorized by contractual relationships and may include financial incentives. In order to increase the

15 likelihood of locating customer credit card information, it is preferable to include the credit card account information from as many credit card issuers as possible. The database consolidation and sorting subsystem 55, which may be in the form of a programmed computer system, sorts and consolidates the credit card information 66 to 66_n provided by the credit card issuers 60 to 60_n, and the sorted and consolidated data is then stored in the master

20 credit card information database 57. This database may reside on a mass storage unit of the computer system.

The automated payment system 50 is used to provide credit card account information to one or more of m number of payees 70 to 70_m. Each of the m payees maintains

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on a computer its own list 76 of customer information. These lists 76 to 76_m include

customer identification data such as names and addresses of customers or additional

information, such as social security numbers and demographic information. The automatic

payment system 50 receives the customer identification data from a given payee 70_x, and the

5   matching and selecting subsystem 59 compares the customer identification data supplied by

payee 70_x with the records in the master credit card information database 57 to locate

matching credit card holder identification data. The matching and selecting subsystem 59

may be in the form of a preprogrammed computer system which is either the same as the one

used for the database consolidation and sorting subsystem 55, or separate therefrom. The

10   process of matching customers from a payee database to credit card account holders in the

matching and selecting subsystem 59 proceeds in accordance with its program, which may

include conventional matching algorithms as known to those of skill in the art.

If more than one credit card holder identifier matches a given customer (i.e.,

the customer has more than one credit card from different issuers), one or more of the

15   matching credit card identifiers is selected by the matching and selecting subsystem 59. This

selection proceeds in accordance with certain selection rules. As a simple rule used in one

embodiment, the selected credit card is the one issued by the issuer having the most credit

cards in the database, i.e., the most "popular" or predominant credit card. Alternatively, the

selection is made on a pro rata basis or other algorithm based on the total number of credit

20   card accounts for each issuer in relation to the number of credit card accounts for the other

issuers and the total number of credit card accounts in the master credit card database 57.

Thus, for example, a credit card issuer which accounts, for example, for 25% of the total

number of credit card accounts in the consolidated database will have its associated credit

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card account selected 25% of the time for customers who have multiple credit card number accounts including that issuer. Yet another method of selecting one associated credit card account number from more than one matching associated credit card account is to compare the selected associated credit card account numbers with credit card usage information to

5   determine the customer's primary credit card, based on amount of use, and selecting the customer's most often used credit card. Another method of selecting an account may take into consideration the fees associated with financial transactions and select the financial institution that charges the lowest fees. Alternatively, the selection process may take into account historical data and select the financial institution that yields the best results or success

10   for a particular payee.

In alternative embodiments, more than one credit card, or all of the credit cards, may be selected for inclusion on a commercial communication, and the customer given the option of selecting which one of the cards is to be used for making payment. In this embodiment, all matching credit card account numbers may be selected and presented to the

15   customer. The selected credit card accounts and encrypted account numbers may be presented to the customer in a list with a check box, such as in the following form:

Choose the card with which you wish to pay:

☐ CITIBANK VISA   XOXOXOXOXO

☐ DISCOVER OXOXOXOXOXO

☐ AMERICAN EXPRESS XOXOXOXOXO

Placing the encrypted credit card information on the commercial communication helps to inform the customer that the actual (i.e., unencrypted) credit card number need not be written on the communication by the customer.

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The selected credit card account number or numbers which are to be included on a commercial communication are then encrypted by a credit card account number encryption subsystem 53. The particular method of encryption may include a finder number, record locator, some form of high level encryption, or any other encryption technique. While

5   encryption is an element of the preferred embodiment, the method of encryption may be any method which achieves adequate security and the specific method of encryption does not constitute a material element of the system and method set forth herein. Moreover, credit card information may be encrypted and provided in encrypted form from the credit card issuers 60 before being stored in the master credit card information database.

10   Fig. 4 illustrates the use of the encrypted credit card information. For each customer in a payee's customer information database 76, the encrypted credit card account number associated with the customer is provided by payee 70_x to the customer (step 80) as part of the communication to the customer from payee 70_x. At step 90, the customer decides whether to authorize payment by credit card. This authorization step may also include

15   selecting which credit card to use if the customer is presented with more than one. If the customer authorizes such payment and returns the commercial communication to the payee or other payment processing entity, the encrypted credit card account number is decrypted at step 100. The encrypted number may be sent by the system 50 to the credit card issuer for decryption and/or payment processing. The decrypted credit card account number is then

20   used to process payment to payee (step 110) and payment is made to the particular payee, along with any required payments for use of the system in handling the transaction. If the customer 90 does not authorize payment, steps 100 and 110 are simply not performed.

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It should be understood that elements of the system and method of the present invention described herein may be modified in keeping with the intended scope of the invention. For example, the consolidated credit card account database has been described as containing account information from multiple credit card account issuers. However, the

5   payee's customer information may alternatively be matched serially against multiple databases, including individual credit card issuers' credit card account databases and/or one or more consolidated database Each consolidated database representssome number of credit card issuers which is a subset of all the issuers.

Fig. 5 shows an alternative embodiment of an automated payment system 50'

10   according to the present invention. The system 50' of this alternative embodiment includes a serial matching subsystem 59' and a selection subsystem 59''. The serial matching subsystem compares customer identification data, received over transmission medium 69 from one or more customer databases 76 of a given payee 70, to a number of credit card databases 66 of a number of issuers 60. The serial matching subsystem may also compare the

15   customer identification data with a consolidated database 58 containing information consolidated from a limited number of issuers 60, in this case, issuers 3 and 4. The serial matching subsystem locates matches of the payee's customer identification data with account holder identification data contained in the individual and partially consolidated databases 66 and 58, as discussed above. Once a set of matching credit card account numbers is located, a

20   selection subsystem 59'' selects one or more of the account numbers, in accordance with the selection rules discussed above.

Alternatively, if a match for a customer is found in the first credit card issuer database, an associated credit card number can be selected for that customer and that

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customer need not be matched against subsequent credit card account issuer databases. This substantially reduces the comparison time and processing requirements. However, if it is desired to select a single credit card account from all of the matching associated credit card numbers for each customer, that customer is matched against the databases of each of the

5   credit card issuers in order, and one of the matching credit card account numbers is selected, again using the selection criteria discussed above.

As can be understood from the description of the present invention, the present invention provides a number of benefits to customers (credit card users), credit card issuers, and payees. Benefits to payees include higher retention rates, less bad debt, savings on

10   mailing expense, and better customer relationships. Benefits for the credit card issuer include more activity or credit card usage, higher retention rates, and increased fee income. Benefits for the customer include convenience, privacy, and efficiency.

Additionally, the system and method of the present invention may be used by a wide variety of businesses and industries which involve some kind of billing and payment

15   process, including publishers of periodicals, book clubs, cable television providers, cellular telephone companies, providers of consumer goods, hotel loyalty programs, newspaper publishers, on-line services, record clubs, rental car loyalty programs, and utilities.

An additional benefit provided by the present invention is the security and privacy for consumers who desire that information regarding their credit card accounts not be

20   easily determined. Therefore, in accordance with the preferred embodiment of the invention herein, a centralized organization or company is the only party, aside from the credit card issuers and the consumers, that has access to the specific credit card account information. It should be understood that the functions performed by the central organization may actually be

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divided between separate entities. For example, one entity may perform processing, while

another entity performs encryption/decryption. As described above, only encrypted credit

card account information is provided to the payees; however, it is within the scope of the

present invention to provide a system in which credit card numbers are provided to payees

5   directly, and the payee or other company encrypts such credit card information for use in its

billing materials. In such a case, once the payee receives the customer's approval for

charging the credit card, it can proceed to decrypt and process the payment from the credit

card issuer directly

Referring now to Fig. 6, therein is shown a block diagram of an embodiment

10   of the automated credit card payment system of the present invention as applied to publishers.

In this arrangement, multiple publishers 150 use a fulfillment house 152 and a service bureau

154 employing the system of the present invention to deal with multiple credit card account

databases 156, one or more of which may be partially consolidated databases as explained

above. More than one fulfillment house 152 may be utilized to serve the various publishers

15   and/or groups of publishers, or one fulfillment house 152 may be used for each publisher 150.

Publishers 150 provide the fulfillment house 152 with each of their subscriber files 158 and

outside lists 160 (i.e., lists of prospective customers). The service bureau 154 uses the system

of the present invention to match the names on the publishers' subscriber files 158 and

outside lists 160 with associated credit card information. This card informationhas been

20   consolidated by the service bureau 154 from multiple credit card issuers 156 and is stored in a

master credit card file. Alternatively, this credit card information can be accessed serially

from databases of the multiple credit card issuers.

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After matching the publishers' subscriber files 158 and outside lists 160 with associated credit card information, the service bureau encrypts the matching credit card account numbers (block 162) and provides them to the fulfillment house 152. The use of the located credit card information is shown in the flow chart of Fig. 7, where fulfillment house

5   152 uses the encrypted credit card account information in marketing, billing and/or renewal efforts (step 164), such as by placing encrypted credit card account numbers on commercial communications, including renewal notices to subscribers. At step 165, customers authorize the use of their credit card, and optionally select which credit card to use if more than one is presented to the customer.

10   When subscribers place orders using the encrypted credit card account information on the commercial communication, the orders are collected and the encrypted number entered and consolidated into a consolidated order file (step 166). The encrypted account numbers in the consolidated order file are then decrypted (step 170) and payments to the publishers are processed (step 172).

15   While several forms of the invention have been described, it will be apparent to those skilled in the art that various modifications and improvements may be made without departing from the spirit and scope of the invention.

WHAT IS CLAIMED IS:

1   1.   A method for facilitating payment from a customer's financial account

2   to a payee, comprising the following steps:

3   compiling in a first memory financial account information databases

4   from a plurality of financial institutions;

5   receiving and storing in a second memory a list of customers from at

6   least one payee;

7   searching said financial account information databases for each

8   customer on said list to locate corresponding customer financial account information; and

9   providing said corresponding customer financial account information

10   to said payee.

1   2. The method of claim 1, further comprising the following steps:

2   providing said corresponding customer financial account information on a

3   communication from said payee to said customer; and

4   said customer authorizing payment to said payee from said corresponding

5   financial account and returning said communication to said payee.

1   3.   The method of claim 1, wherein said searching step includes the step of

2   serially searching a plurality of financial account information databases.

1   4.   The method of claim 1, further comprising the step of consolidating a

2   plurality of financial account information databases into a single consolidated financial

3   account information database and wherein said searching step includes the step of searching

4   said consolidated database.

1   5.   The method of claim 1, wherein said corresponding customer financial

2   account information includes information concerning a plurality of customer financial

3   accounts.

1   6.   The method of claim 5, wherein the information concerning said

2   plurality of customer financial accounts is provided to said payee.

1   7.   The method of claim 5, further comprising the step of selecting a

2   subset of one or more financial accounts from among said plurality of customer financial

3   accounts.

1   8.   The method of claim 7, wherein said selecting step includes at least

2   one of the steps of selecting the customer's most often used financial account, selecting the

3   customer's financial account with the financial institution that charges the lowest fees, and

4   selecting the customer's financial account with the financial institution having the best

5   historical success rate.

1   9.   The method of claim 7, wherein said selecting step selects the

2   customer's financial account with the financial institution having the largest number of

3   financial accounts.

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1   --   10.   The method of claim 7, wherein said selecting step selects the

2   customer's financial account using an algorithm which takes into account the relative number

3   of financial accounts of said plurality of financial institutions.

1   11.   The method of claim 2, further comprising the following steps:

2   encrypting said corresponding customer financial account information

3   prior to providing it to said payee; and

4   decrypting said corresponding customer financial account information

5   after said customer authorization and return to said payee.

1   12.   The method of claim 1, wherein said financial account corresponds to

2   one of a credit card, smart card, bank card, checking account and virtual payment account.

1   13.   A method for facilitating payment from a subscriber's financial

2   account to a publisher, comprising the following steps:

3   compiling financial account information databases in a first memory

4   from a plurality of financial institutions;

5   receiving and storing at a second memory at a fulfillment house,

6   subscriber files from a plurality of publishers;

7   earching said financial account information databases for each

8   subscriber in said files to locate corresponding subscriber financial account information;

9   encrypting said corresponding subscriber financial account

10   information;

11   --   providing said encrypted corresponding subscriber financial account

12   information to said fulfillment house for use in marketing or renewal efforts;

13   obtaining subscriber authorization for using said corresponding

14   subscriber financial account; and

15   decrypting said corresponding subscriber financial account and

16   effecting payment to one of said publishers.

1   14.   The method of claim 13, further comprising the step of consolidating

2   subscriber authorizations into a consolidated order file.

1   15.   A system for facilitating payment from a customer's financial account

2   to a payee, said system including a programmed computer and comprising:

3   a financial account compiler which compiles in a first memory

4   financial account information databases from a plurality of financial institutions;

5   a memory subsystem for receiving and storing a list of customers from

6   at least one payee;

7   a search subsystem which for each customer on said list, searches said

8   financial account information databases to locate corresponding customer financial account

9   information; and

10   an interface which provides said corresponding customer financial

11   account information to said payee.

1   16.   The system of claim 15, further comprising:

2   --   a communication subsystem which provides said corresponding customer

3   financial account information on a communication from said payee to said customer; and

4   a processing unit which receives customer authorization of payment to said

5   payee from said corresponding financial account after return of said communication to said

6   payee.

1   17.   The system of claim 15, wherein said search subsystem serially

2   searches a plurality of financial account information databases.

1   18.   The system of claim 15, further comprising a database consolidator

2   which consolidates a plurality of financial account information databases into a single

3   consolidated financial account information database and wherein said search subsystem

4   searches said consolidated database.

1   19.   The system of claim 15, wherein said corresponding customer financial

2   account information includes information concerning a plurality of customer financial

3   accounts.

1   20.   The system of claim 19, wherein the information concerning said

2   plurality of customer financial accounts is provided to said payee.

1   --   21.   The system of claim 19, further comprising a database selector which

2   selects a subset of one or more financial accounts from among said plurality of customer

3   financial accounts.

1   22.   The system of claim 21, wherein said database selector selects a

2   customer's financial account dependent on at least one of: the customer's rate of relative

3   usage of financial accounts, the fees charged by the financial institutions for the customer's

4   financial accounts, and the historical success rates for the financial institutions for the

5   customer's financial accounts.

1   23.   The system of claim 21, wherein said database selector selects the

2   customer's financial account with the financial institution having the largest number of

3   financial accounts.

1   24.   The system of claim 21, wherein said database selector selects the

2   customer's financial account using an algorithm which takes into account the relative number

3   of financial accounts of said plurality of financial institutions.

1   25.   The system of claim 16, further comprising:

2   an encryption subsystem which encrypts said corresponding customer

3   financial account information prior to providing it to said payee; and

4   a decryption subsystem which decrypts said corresponding customer

5   financial account information after said customer authorization and return to said payee.

1   26.   The system of claim 15, wherein said financial account corresponds to

2   one of a credit card, smart card, bank card, checking account, and virtual payment account.

1   27.   A system for facilitating payment from a subscriber's financial account

2   to a publisher, said system comprising:

3   a financial account compiler which compiles in a first memory

4   financial account information databases from a plurality of financial institutions;

5   a memory subsystem for receiving from a fulfillment house, subscriber

6   files from a plurality of publishers;

7   a search subsystem which searches said financial account information

8   databases for each subscriber in said files to locate corresponding subscriber financial account

9   information;

10   an encryption subsystem which encrypts said corresponding subscriber

11   financial account information;

12   an interface which provides said encrypted corresponding subscriber

13   financial account information to said fulfillment house for use in marketing or renewal

14   efforts;

15   a processing unit which receives subscriber authorization for using said

16   corresponding subscriber financial account; and

17   a decryption subsystem which decrypts said corresponding subscriber

18   financial account and effecting payment to one of said publishers.

28.   The system of claim 27, further comprising a consolidation unit which consolidates subscriber authorizations into a consolidated order file.

FIG. 1
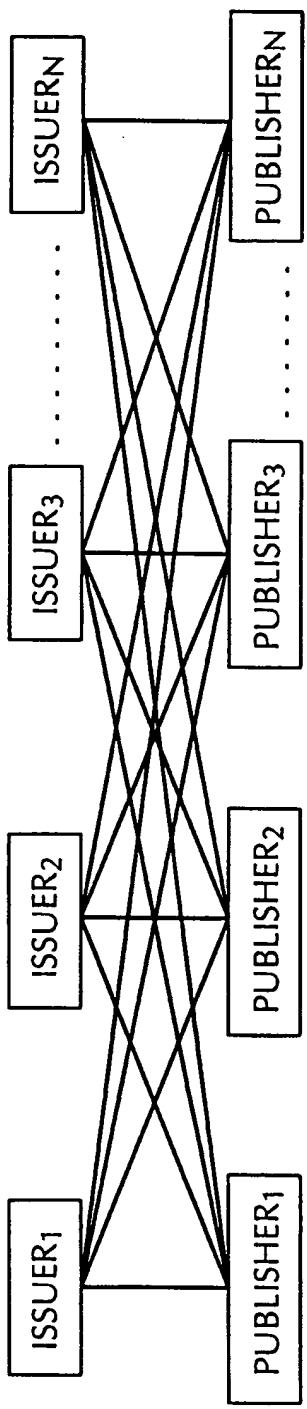
FIG. 2
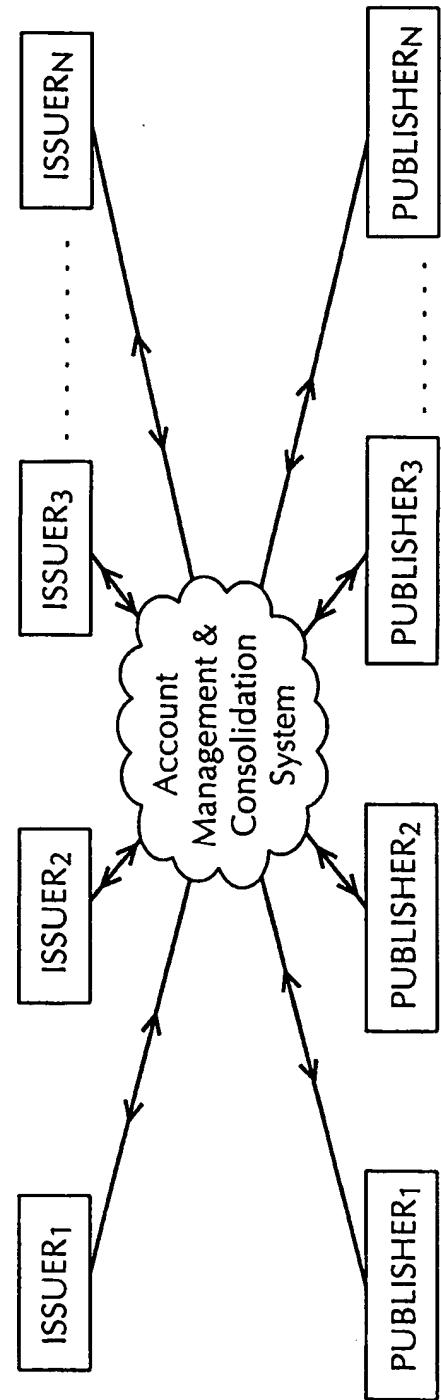
FIG. 3
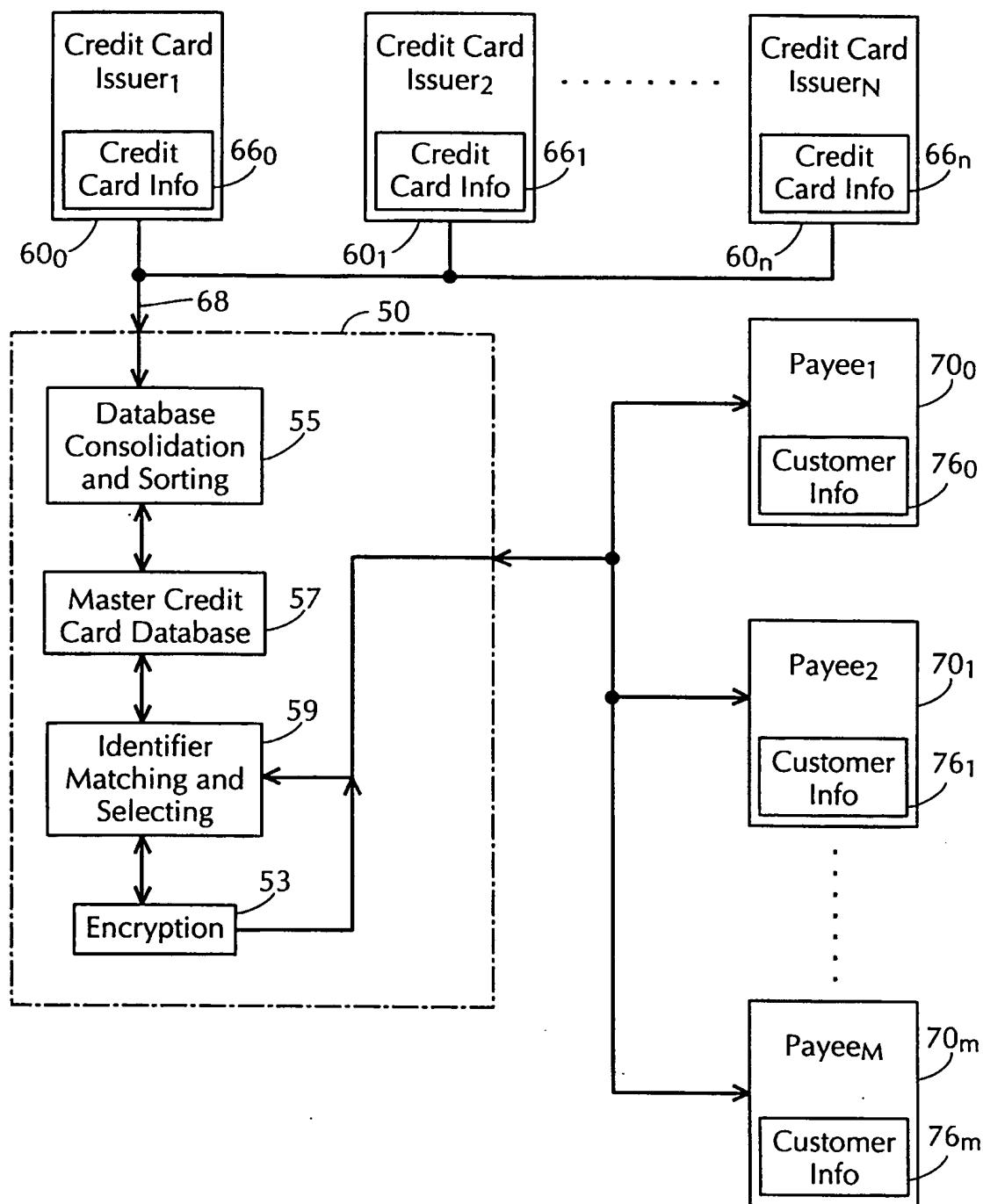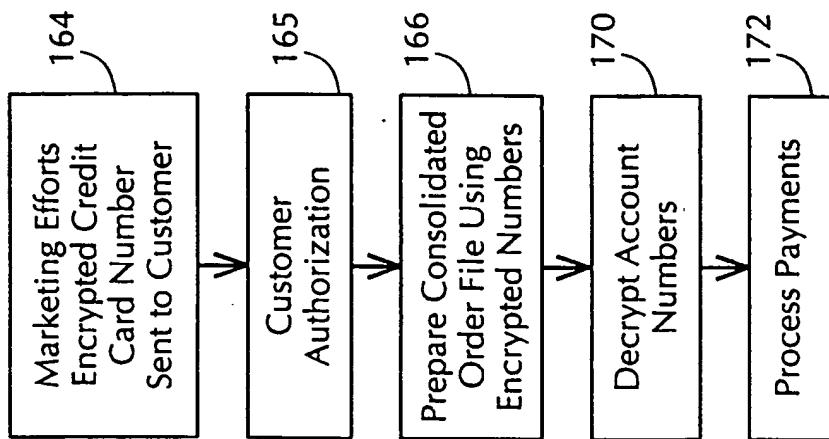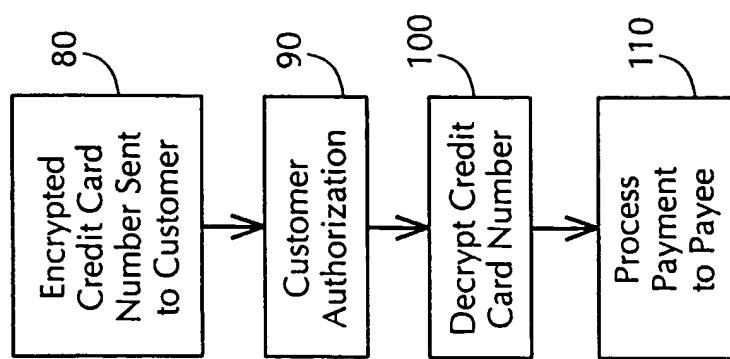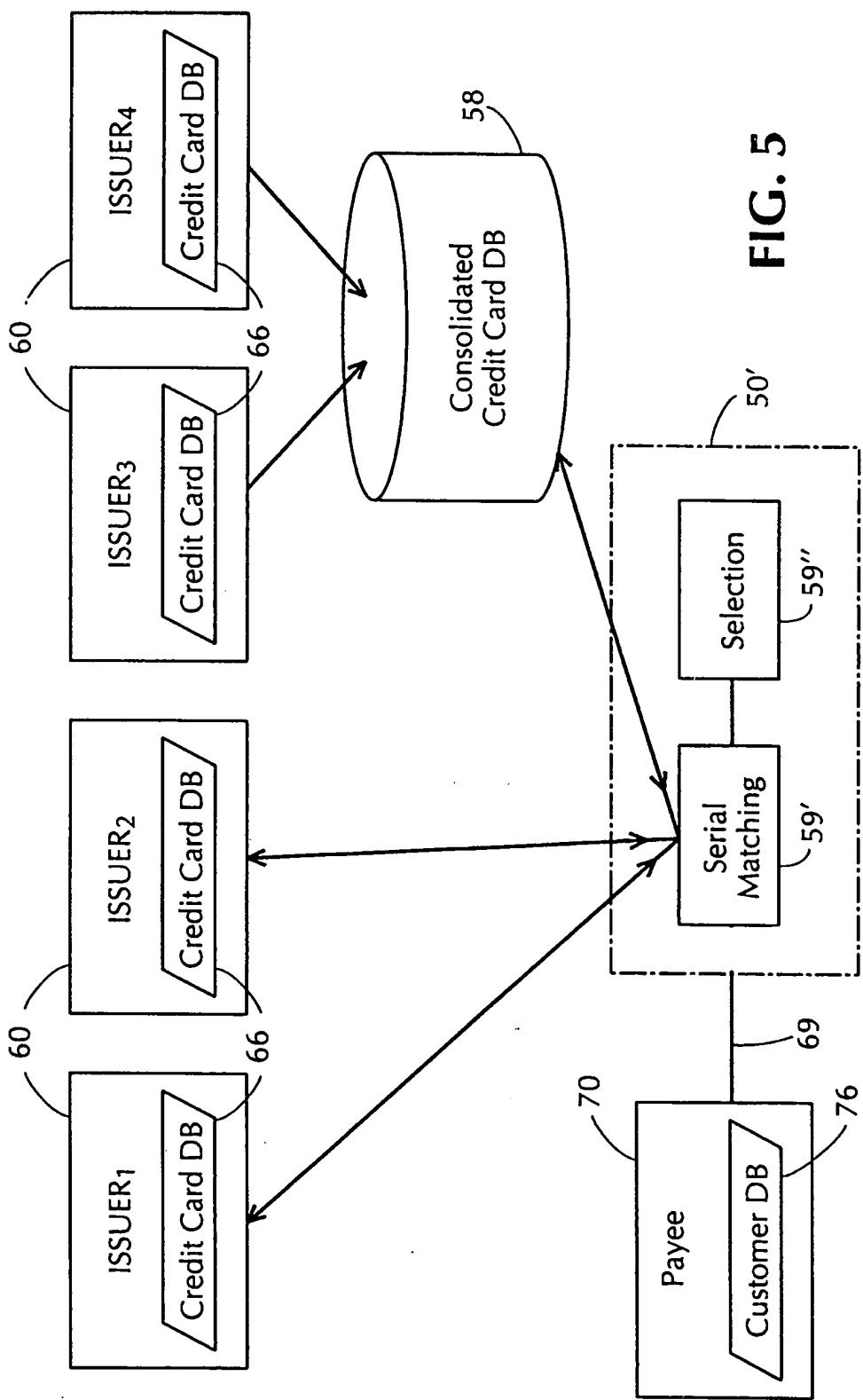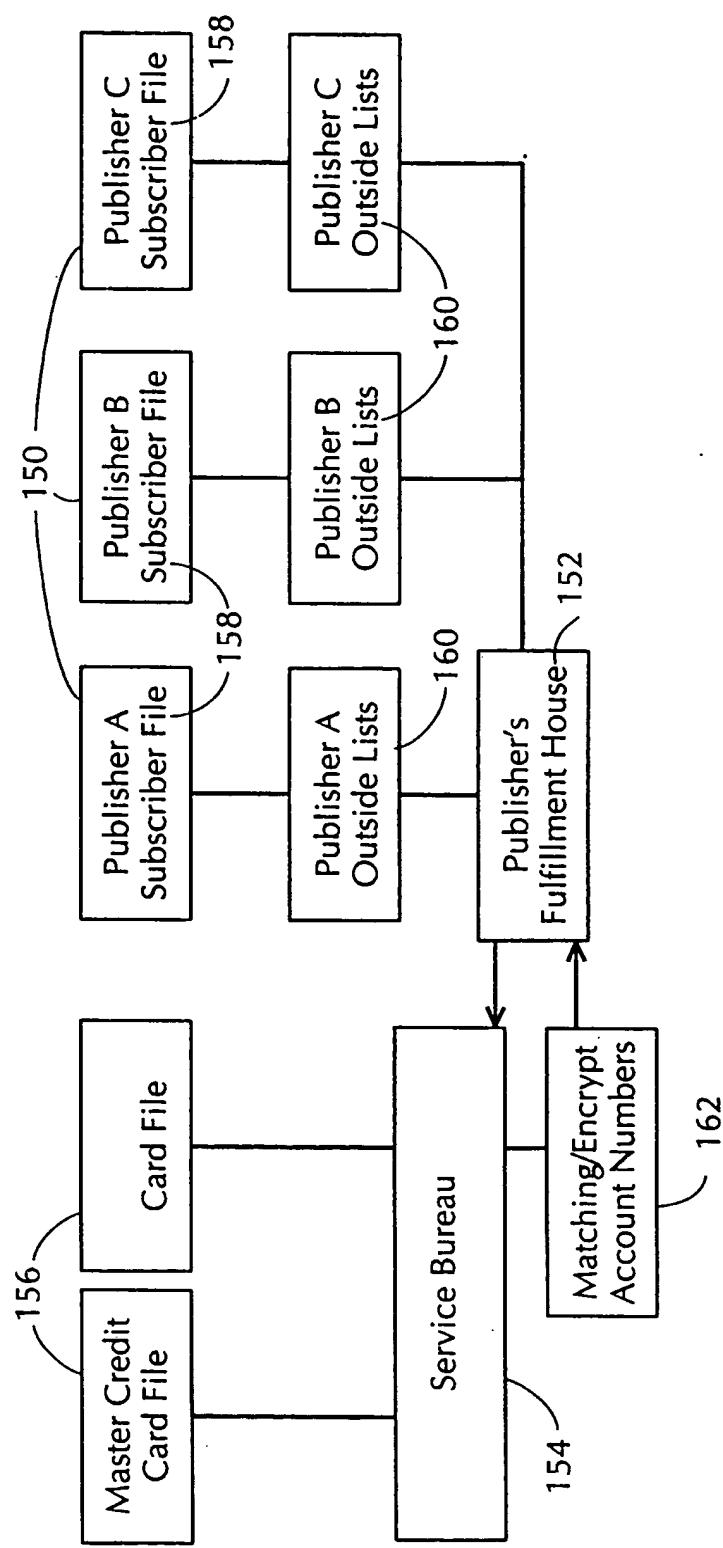
Marketing Efforts
Encrypted Credit
Card Number
Sent to Customer — 164

Customer
Authorization — 165

Prepare Consolidated
Order File Using
Encrypted Numbers — 166

Decrypt Account
Numbers — 170

Process Payments — 172

FIG. 7

Encrypted
Credit Card
Number Sent
to Customer — 80

Customer
Authorization — 90

Decrypt Credit
Card Number — 100

Process
Payment
to Payee — 110

FIG. 4

FIG. 5

FIG. 6

INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) :G06F 17/60
US CL :705/39, 40, 44; 235/380, 379; 380/25

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 705/39, 40, 44; 235/380, 379; 380/25

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Please See Extra Sheet.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y,P	US 5,757,917 A (ROSE ET AL) 26 MAY 1998, SEE ABSTRACT, COL. 3, LINES 14-50, COL. 5, LINES 35-45 AND COL. 8, LINES 15-61.	1-28
Y,E	US 5,794,207 A (WALKER ET AL) 11 AUGUST 1998, SEE ABSTRACT, FIG. 11.	1-28
Y,E	US 5,809,144 A (SIRBU ET AL) 15 SEPTEMBER 1998, SEE ABSTRACT, FIG. 4.	1-28
Y	US 4,851,650 A (KITADE) 25 JULY 1989, SEE ABSTRACT, COL.2,LINES 42-50.	5-10 AND 19-24
Y,P	US 5,715,399 A (BEZOS) 03 FEBRUARY 1998, COL.2 , LINES 31-39.	5
Y,P	US 5,768,521 A (DEDRICK) 16 JUNE 1998, COL. 1, LINES 42-	13-14 AND 27-

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

Date of the actual completion of the international search	Date of mailing of the international search report
23 SEPTEMBER 1998	30 OCT 1998

Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231	Authorized officer GAIL HAYES
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Form PCT/ISA/210 (second sheet)(July 1992)*

B. FIELDS SEARCHED
Electronic data bases consulted (Name of data base and where practicable terms used):

APS
search terms: internet ,world wide web, seller, retailer, payee, merchant,vendor, account, highst, lowest,best,select choose, pick, plural, many, multiple several